

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1878.

16th Issue.

PUBLISHED BY ORDER OF
The Inspector General of Customs.

SHANGHAI:
STATISTICAL DEPARTMENT
OF THE
INSPECTORATE GENERAL.

MDCCCLXXIX.

UNITED STATES

DEPARTMENT OF THE INTERIOR

Geological Survey

WATER RESOURCES DIVISION

FOR THE YEAR 1902

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IMPERIAL MARITIME UNIVERSITY

II—SPECIAL SERIES: No. 5

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INSPECTOR GENERAL'S Circular No. 19 of 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31st December 1870.

SIR,

1.—It has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the Medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season.
Alteration in local conditions—such as drainage, &c.
Alteration in climatic conditions.

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence.
Causes.
Course and treatment.
Fatality.

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking. I have committed to Dr. Alex. JAMIESON, of Shanghai, the charge of arranging the reports for publication, so that they may be made available in a convenient form.

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.—

*

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*

I am, &c.,

(signed)

ROBERT HART,

I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang, Ningpo,*
Tientsin, Foochow,
Chefoo, Tamsui,
Hankow, Takow,
Kiukiang, Amoy,
Chinkiang, Swatow, and
Shanghai, Canton.

SHANGHAI, 1st *February* 1878.

SIR,

IN accordance with the directions of your despatch No. 6 A (Returns Series) of the 24th June 1871, I now forward to the Statistical Department of the Inspectorate General of Customs, the following documents:—

- A.—Notes on *Tinea Imbricata*, pp. 1-11.
- B.—Report on the Health of Amoy, pp. 12, 13;
- C.—Report on the Health of Chefoo, pp. 14-17; each of these referring to the half-year ended 30th September 1878.
- D.—Report on the Health of Tamsui and Kelung, pp. 18, 19;
- E.—Report on the Health of Chinkiang, pp. 20-22;
- F.—Report on the Health of Hankow, pp. 23-25; each of these referring to the year ended 30th September 1878.
- G.—Report on the Health of Swatow, pp. 26-29;
- H.—Report on the Health of Shanghai, pp. 30-32; each of these referring to the half-year ended 30th September 1878.

I have the honour to be,

SIR,

Your obedient Servant,

R. ALEX. JAMIESON.

THE INSPECTOR GENERAL OF CUSTOMS,

Peking.

The Contributors to this Volume are—

P. MANSON, M.D., CH.M.	Amoy.
J. G. BRERETON, L.K.&Q.C.P., L.R.C.S.I.	Chefoo.
B. S. RINGER, M.R.C.S., L.S.A.	Tamsui and Kelung.
A. R. PLATT, M.D.	Chinkiang.
A. G. REID, M.D., F.R.C.S.E.	Hankow.
E. I. SCOTT, L.K.&Q.C.P., L.R.C.S.I.	Swatow.
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A.—Notes on Tinea Imbricata, an Undescribed Species of Body Ringworm.

By PATRICK MANSON, M.D.

DERMATOLOGISTS pretty well agree in their descriptions of the various forms of epiphytic skin disease, and in the characters of the vegetable parasites with which they are associated. Favus, tinea tonsurans, tinea sycosis, tinea decalvans, chloasma, are distinct diseases, and are generally recognized as such. This unanimity, however, does not obtain in the case of tinea circinata, or ringworm of the body, some authorities teaching that there are several species of tinea included under this name, while others affirm that there is but one disease, and one species of fungus producing the different modifications. Dr. Tilbury Fox is one of the most recent writers advocating this latter view. In his work on skin diseases he is very decided in his assertions. He says, referring to this subject, "It will be seen that I include a number of diseases hitherto regarded as distinct from tinea circinata under that head. Of the correctness of this step, I have no shadow of doubt, and it really saves a vast addition to the vocabulary of the dermatologist." Under one head he brings, besides the typical form of tinea circinata, all what he calls its uncommon phases, "such as general parasitic tinea, parasitic eczema, Burmese ringworm, eczema marginatum, Malabar itch, Chinese itch, etc.," and these varieties of the disease he attributes to the influence of diversity of climate, clothing, constitution, and part of the body affected.

While agreeing with Dr. Tilbury Fox in the desirability of simplifying so complicated a subject, with all deference to his high authority, I take the liberty of asserting that his generalisation is too sweeping, and that there are at least two distinct and well-marked species of body ringworm. I agree with him thus far in considering that the names he enumerates do not *always*, or generally, represent different species of disease; but when he maintains that there is only one species, he goes too far, and, I believe, is mistaken. It seems strange that one so practised in observation should fall into this error. I can only account for it by supposing that he and those whose opinions he represents have never seen a case of the disease I propose to describe under the name of tinea imbricata, and that a careful description of its characteristics is not to be found in medical literature. In the following remarks I will endeavour, by a detailed account of a case of tinea imbricata and another of tinea circinata, to supply this description, and bring out the characteristics of the two diseases by their contrast; and afterwards I hope to show by a description of the microscopic appearances of their respective fungi, and the results of experiments in inoculation, that the difference is not only in clinical characters brought about by peculiarities of circumstance, but actually in species, and is everywhere and in all circumstances constantly maintained.

DETAILS OF A CASE OF *TINEA IMBRICATA* AND OF A CASE OF *TINEA CIRCINATA*.

Case 1. *Tinea Imbricata*.—(PLATE I.) LIAM, male, æt. 45; a rice grinder; native of and resident in Amoy. He is well nourished, muscular, and in excellent general health. Twenty years ago he emigrated to the Straits Settlements, where he worked in a sago factory, but returned to Amoy after an absence of only three years. He came back in consequence of the eruption of the skin disease he now suffers from, his friends having told him it would disappear in the cooler and drier climate of China. He was in the Straits but a few weeks when the inner surface of his right thigh was attacked by the disease, which, in the course of three years and a half, spread over nearly the whole of his body. At the sago factory there was a Cantonese who had the disease. This man's towel he used to wipe his body with, and to this circumstance he attributes his infection. There has been no remission all these twenty years; his skin has all along had the same appearance. During the winter, perhaps, the itching which troubles him so much in warm, damp weather, is mitigated.

The extent of the disease is most easily described by enumerating the parts not involved. These are:—1°, a symmetrical patch of sound skin, extending in front from over trochanter major to trochanter major; on an average this patch is about four inches broad; in the middle of the body it expands slightly and includes the genitals. 2°, an oval patch in the middle line over the lower lumbar vertebræ; it is about the shape and size of the palm of the hand, its long diameter lying vertically. 3°, a symmetrical patch in front of the chest, including both nipples and stretching from armpit to armpit, the skin of the walls of which, both brachial and thoracic, is quite healthy. This patch measures over the sternum about six inches in breadth. 4°, the whole of the hairy scalp, with the exception of that over the occiput, the disease on which is continuous with that of the neck. These four patches of sound skin are shaped and arranged symmetrically; but, 5°, a long irregular surface on the front of the left leg has nothing corresponding to it on the right side. With the exception of the parts enumerated, the whole of the rest of the skin is implicated.

It would be difficult to give a description applicable to the disease as it is seen in all parts of the body, but if I select one spot, as that represented in PLATE II, some idea of what I might call the plan of the disease may be conveyed. The patch selected is situated just above the right nipple. A rectangular portion, measuring $3\frac{1}{4} \times 4$ inches, has been marked off with ink. On the surface of this the epidermis is arranged in a series of wavy lines, lying parallel to each other, and having a more or less concentric arrangement in relation to an imaginary point, situated somewhere about the tip of the right shoulder. It is very like the ringed appearance in a cross-cut log of wood. On closer examination, this effect is found to be produced by an undermining of the epidermis, giving rise to long flakes, about $\frac{1}{8}$ of an inch in breadth, the free edge of the scale being directed towards the centre of the circle, the convexity remaining still firmly attached. If the hand is passed over the surface from the circumference towards the centre of the circles, the scales are smoothed down; if in the reverse direction, they are raised up, and stand out prominently, defining the wavy outline of the rings very distinctly. If we attempt to detach the scale, it is found to be firmly adherent at the outer edge; but by using a little force it can be peeled off, the flake becoming thinner, softer and more delicate the further we proceed from its original attachment, until it is completely separated. If the forceps is carefully used, two or more inches in length of epidermis can thus in some places be separated in a continuous, unbroken ribbon. Just under the free edge of the scale, the skin is lighter in colour than between it and the preceding or succeeding rings. The rings are about $\frac{1}{8}$ to $\frac{1}{4}$ of an inch apart, so that thirty can be counted between one corner of the square and the other. Some are quite regular in their outline over a length of five or six inches, others, again, are interrupted at intervals and more or less irregularly convoluted; but there is no spot an inch square within the area of the disease unoccupied by these scaly rings.

On the soft and protected skin of the thorax and abdomen, the disease and its characteristic features are seen in their greatest perfection. On the back and shoulders, the flakes of loosened epidermis, being seldom disturbed by scratching or friction, have acquired greater dimensions, but from their size and the



PLATE I, (page 2).



PLATE II, (page 2).



PLATE III, (page 7).



PLATE IV, (page 3).



PLATE V, (page 6).

irregular way in which they have been shed, they more or less conceal the ringed pattern so evident in front. The arms and legs, feet, hands and face, being subject to much friction, have assumed a rough, reddish, furfuraceous appearance, with the wavy outline of the rings only visible in places. The hair of the eyebrows and occiput seems quite healthy, growing strong and glossy through the diseased epidermis. Though rough to the touch from the desquamation, there seems to be no thickening or effusion into the corium, notwithstanding the length of time the parts have been affected.

In this case, as observed at present, the line of demarcation between the perfectly sound and the diseased skin is not very abruptly marked. It looks as if the disease endeavoured at times to push on to and establish itself in the sound skin, but finding the ground unsuitable, released its hold, leaving little outposts of spots and lines at intervals along the ground it has been compelled to abandon.

Over the abdomen, the rings have advanced from right to left, the free borders of the scales being directed to the right; over the thorax on both sides, diagonally from above downwards and without inwards; over the back from a point between the shoulder-blades.

Another point deserving of particular notice is the existence of symmetrically arranged patches of leucoderma on which there is no scaling or rings. Such patches are to be seen on the anterior surfaces of the wrists and forearms; and still more markedly on the upper anterior and inner surfaces of the thighs. The disease has been in existence longest in these localities. In the leucodermic patches, the loss of colour, though extending over a considerable area, is not in one large continuous patch; but white spots an inch or more in diameter, are mixed with spots of the natural colour of the skin, giving the places mentioned a piebald appearance.

During all the years this man has lived in Amoy, he is not aware of having communicated his disease to any one.

Case 2. *Tinea Circinata*.—(PLATE IV.) TCHOK, male, æt. 19; came to hospital suffering from general debility and ringworm.

The characters of *tinea circinata* are well known. A minute description of them is therefore unnecessary. In giving this case I will merely mention the principal and diagnostic features, to insure its being recognized as the disease in question.

On his face, and nowhere else, is a well-marked ringworm. It has been out for one month only, and spread from a spot on the right side of the nose. The ring is incomplete on the right cheek, and is broken in several other places, once by the right eye, again by the mouth, and again by the left ala nasi. On an average, it is about $\frac{1}{4}$ of an inch in breadth; it is slightly but distinctly elevated, of a dark red colour, scurfy and obscurely vesiculated at places, and is very itchy. The margin is more abrupt at the spreading, shading off at the receding edge; and though there is a tendency at the convex border to undermining of the epidermis, the scales so produced are very minute, not in any place measuring more than $\frac{1}{8} \times \frac{1}{32}$ of an inch. There is no attempt whatever at reproduction of a ring in the skin already travelled over, which is quite natural in colour and texture. Under the microscope, mycelium and spores of trichophyton are to be detected in scrapings from the ring.

TRICHOPHYTON TONSURANS AND THE FUNGUS OF TINEA IMBRICATA.

The microscopic appearances of the fungus of *tinea imbricata*, although in many respects closely resembling those of the fungus of *tinea circinata* (*trichophyton tonsurans*), are yet sufficiently distinctive to render the diagnosis of the disease by the microscope alone quite a simple affair. In the first place, it is often no easy matter to find fungus elements in *tinea circinata*, and several slides may have to be examined before a fragment of mycelium, not to mention a chain of conidia, is found. But in the case of *tinea imbricata*, one has only to raise any scale on the diseased surface, and place it under the microscope, to see fungus elements in enormous

abundance. In every field are hundreds of conidia, arranged in chains, crossing and re-crossing each other, and mixed with a fair proportion of mycelia; and with a little alteration of the focus one can see that there is not one, but several layers of this elaborate network. This contrast in the quantity of fungus in any given specimen is most remarkable. (See FIG. I.)

Another point of contrast is in the position the fungus occupies in the skin. There can be no doubt about this in *tinea imbricata*; it is always in the lowest layers of the scale of epidermis. From the size of the scale, which can be raised and laid on the slide smoothly and accurately, this is easily determined. In the case of the fungus of *tinea circinata*, we cannot be so certain from microscopic evidence alone of its position; but the mycelial threads seem to spring from deep in the skin, and wind in and out amongst the superjacent layers of epidermis. The seat of *tinea imbricata* is undoubtedly in the non-vascular rete Malpighii, or deeper layers of the epidermis; of *tinea circinata*, probably in or on the surface of the vascular corium and its hair follicles; hence the small amount of irritation and inflammatory change excited by the former, and the thickening, induration and red raised ring of the latter.

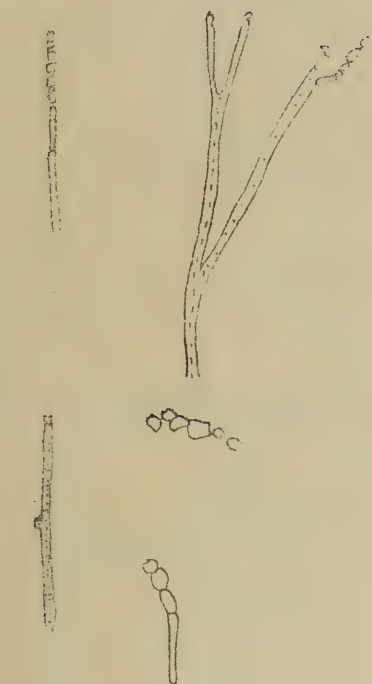
Additional proof that the rete Malpighii supplies the pabulum on which the fungus of *tinea imbricata* lives, is afforded by the absence of colour in the skin just travelled over by the rings of advancing disease, and by the frequent occurrence of leucodermic patches in those parts which have been longest affected, and the subsidence of the disease where the skin fails to reproduce its pigment layer.

FUNGUS OF *TINEA IMBRICATA* (FIGS. I, II, III).

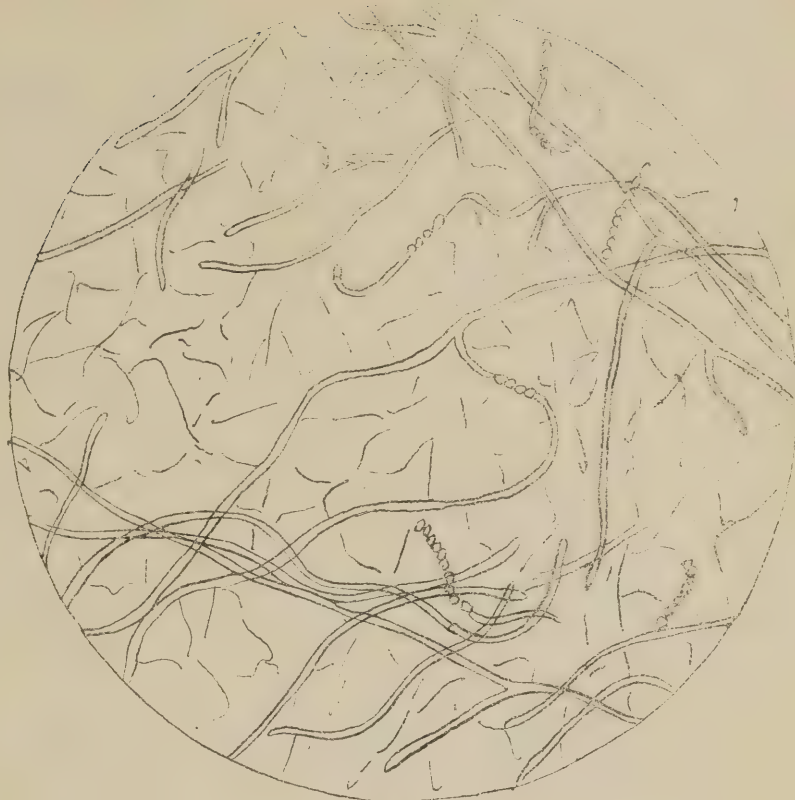
Conidia,—generally oval, rarely circular, often irregular, measuring from $\frac{1}{10000}$ to $\frac{1}{5000}$ of an inch in diameter, arranged in single rows, or long often-branching chains. They appear to be formed in two ways, either by division of previously existing conidia, or by segmentation of mycelium. Where the latter has recently been effected, the conidia are more rectangular, of a darker colour, and often contain reddish-brown granules; otherwise the conidia are colourless, without markedly granular contents, and of a rounded contour. If a chain of conidia is traced to its termination, this is usually found to consist of a longer and larger spore, in some instances exhibiting a transverse constriction, as if dividing. In an ordinary specimen, these chains of conidia are much more numerous than the accompanying mycelial threads.

Mycelium varies in breadth from a very minute thread up to $\frac{1}{5000}$ of an inch. It appears to be of two sorts, a paler and a darker, though intermediate forms can usually be found also. The paler variety is less sharp in outline, and from its rounded appearance resembles more than does the other the structure of the perfect conidia; it branches frequently, is interrupted irregularly by articulations and delicate transverse septa, and frequently terminates or arises in a chain of conidia. The darker variety is more tape-like in its appearance, and is recognized by its delicate but sharply defined border, and the numerous granules of dark reddish-brown material it contains. This latter form is also frequently branched, and little protuberances are attached to it at intervals; it is much articulated in places, and terminates in a bulbous extremity or in a chain of conidia. The colour granules tend to run together when the specimen has been immersed some time in dilute liquor potassæ. Both forms of mycelium vary much in diameter, and the threads are but slightly bulged, and only at long intervals.

III



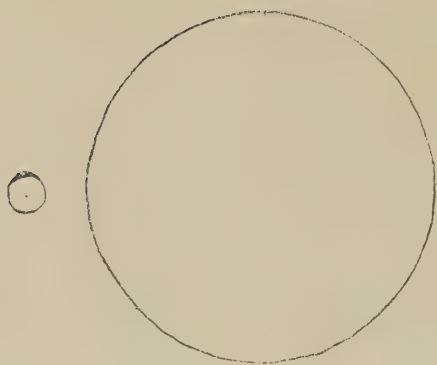
II



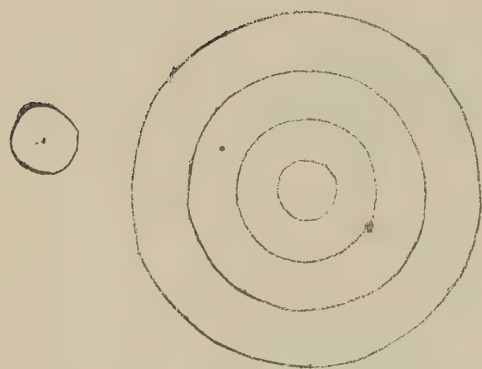
I



III A



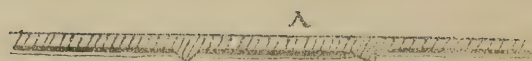
II A



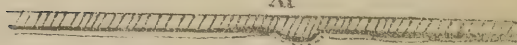
IA



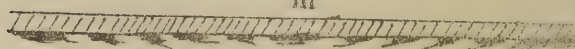
Λ



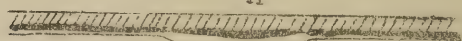
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III



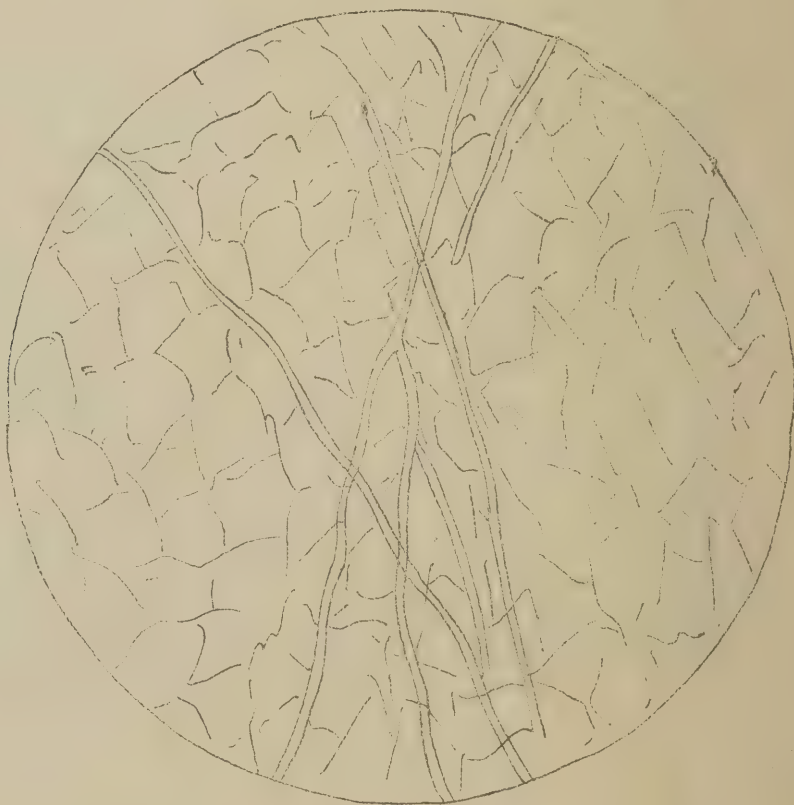
II



I



ΛI



Stroma.—This I have not recognized with certainty in recent preparations; but if the scales are kept for several weeks in a dry bottle, and then examined, it will be found that the conidia have nearly entirely disappeared, their place being taken by large articulating, much-branched mycelial threads (see FIG. II), and patches of what I believe to be stroma. This latter is made up of innumerable exceedingly minute globular cells, heaped together without any definite arrangement.

As in all cases of epiphytic skin disease, bacteria, micrococci and similar low forms of life abound in and about the epithelial scales.

FUNGUS OF TINEA CIRCINATA (TRICHOPHYTON TONSURANS).

(See FIGS. IV and VI.)

Conidia.—In proportion to mycelium, and compared to *tinea imbricata* very few indeed, many scrapings having to be searched before they are found. In size they are much the same as those of *tinea imbricata*, but are more globular in form, and are often compressed in the direction of the axis of the short chain in which they are generally arranged. The terminal conidium is large and bulbous and more oval. They are generally seen to be connected with mycelium.

Mycelium varies in breadth, as does that of *tinea imbricata*, but it is distinguishable from the latter by numerous swellings and constrictions and other irregularities in outline. This contrast is very noticeable. It is frequently articulated to form conidia, and septa and branches are common. Generally the threads contain very minute dark granules. The course of a mycelial thread of *tinea imbricata* is usually long, straight or gently curved; that of the mycelia of *tinea circinata* is generally short, irregular and much convoluted.

Stroma, I have not detected with certainty.

EXPERIMENTS IN INOCULATION.

The contrast in the clinical features of these two diseases, and the microscopic characters of their fungi, is decided. If I now show, by careful observation of the results of their successful inoculation, that these distinctive features are transmitted and maintained in every instance and in the same individual, the assumption of Dr. Tilbury Fox and others, that the disparity in the appearance of the varieties of ringworm is produced by differences in climate and other circumstances, will not apply.

INOCULATION OF TINEA CIRCINATA.

Inoculated two assistants by scratching the epidermis on anterior surface of forearm, and rubbing into the spot scrapings from the ring of TCHOK, Case 2. The inoculated spot was protected by a pledget of cotton wool held in place by strapping. The following are my notes, made every few days during the progress of the inoculation:—

5th day.—Dressings removed. One case has completely failed; but on the forearm of the other, close to, but not quite over, the seat of inoculation, is a very minute vesicle.

8th day.—A red, itching spot, slightly, if at all, elevated, about $\frac{3}{16}$ of an inch in diameter, where the vesicle was.

10th day.—Yesterday, the original inoculation spot became itchy and red, and to-day is larger and more itchy. The other spot, where the vesicle was, has not extended.

15th day.—The site of the inoculation is now occupied by a circular patch, $\frac{7}{16}$ of an inch in diameter. It is red, rough, slightly elevated and itchy, and is beginning to assume the appearance of a ring, the centre being paler than the circumference, and distinctly depressed. The site of the vesicle is now included by the ring.

17th day.—The ring, gradually enlarging, is now over $\frac{5}{8}$ of an inch in diameter, perfectly circular, abrupt towards sound skin, shading off towards centre, elevated, very itchy, with one or two minute vesicles on it. Trichophyton easily found in scrapings.

19th day.—Ring is now $\frac{3}{4}$ of an inch in diameter, $\frac{1}{8}$ of an inch in breadth, with a bright red, slightly furfuraceous surface; no large scales.

22nd day.—Ring is now $\frac{13}{16}$ of an inch in diameter, rather more scurfy and less elevated; the minute furfuraceous scales are attached at the outer border of the ring; loose on the inner.

24th day.—Ring nearly $\frac{15}{16}$ of an inch. Skin in the centre appears to be quite healthy.

26th day.—Diameter about one inch. Outline more irregular. (See PLATE V.)

28th day.—Ring is now oblong, irregular and faded-looking; greatest diameter measures $1\frac{1}{8}$ inch.

33rd day.—Ring measures $1\frac{3}{8}$ inch, but is now not complete, being interrupted in several places. Outline also is more or less irregular in shape and colour. In places there are bright red spots, in other places paler spots; and some of these are in advance of the general body of the disease. Centre is quite healthy. The disease was to-day destroyed by the application of iodine liniment.

During the progress of the inoculation, the fungus was looked for from time to time, and always found. Its characters were those of trichophyton tonsurans, already described, and corresponded, as did all the other features of the inoculated disease, with those of the ringworm from which it was derived.

INOCULATION OF *TINEA IMBRICATA*.

I was anxious to make a successful inoculation of *tinea imbricata* in the same individual, and accordingly, as soon as I was convinced that the inoculation of *tinea circinata* had held, I inoculated his other arm with scales from a case of *tinea imbricata*. These scales were quite two months old, having been kept in a stoppered bottle all the time. There was no result. I then sent for the man LIAM, Case 1, and, with fresh scales procured from him inoculated the left forearm in two places, front and back, treating the spots in exactly the same manner as I had done when on the same man I inoculated *tinea circinata*.

6th day.—Dressings removed. At the seat of inoculation the epidermis has been shed, leaving a very fair ring of undermined epithelium surrounding the spot, which is about $\frac{1}{4}$ of an inch in diameter; it is not elevated or altered in colour, though rather more glossy than the surrounding skin. Fungus was searched for, but was not found. The shedding of the epidermis I look upon as the result of the irritation, and in no way the consequence of the fungus.

8th day.—Appearance much the same as two days ago, though, possibly, more distinct. No trace of fungus in scales, and no itching.

10th day.—The circle of desquamating delicate epithelium has disappeared, but now there is a minute brownish spot on each seat of inoculation, that on the back of the arm being double. These spots are about $\frac{3}{16}$ of an inch in diameter, and do not itch.

12th day.—The brown spot on the anterior surface of the arm is slightly larger; it is not at all inflamed or very distinctly elevated, and does not itch. The epidermis covering it is very delicate, and a

considerable flake of this is easily peeled off by piercing it, and running a needle between it and the corium. Transferred to the microscope, this is found to be crowded with mycelium and innumerable chains of conidia of the same character as found in the case of *tinea imbricata* already described; the mycelium is perhaps more plentiful and made up of shorter lengths, and in many of the threads are large quantities of brown pigment granules arranged as nuclei. The spot on the back of the arm he has scratched; it is red, denuded of epithelium, and crusted in consequence.

13th day.—The spot in front is now $\frac{1}{4}$ of an inch in diameter, of a brownish colour, hardly elevated, and is surrounded by a delicate overhanging fringe of detaching epidermis. That on back of arm still damaged by the scratching; one half is occupied by a small crust, the other half resembles the spot on the front of the arm. It is red and swollen.

17th day.—The spot has now assumed a distinctly ringed appearance, and measures $\frac{3}{8}$ of an inch in diameter. He says it itches more than does the *tinea circinata* on the other arm, and has in consequence been scratched and rather spoiled. In *tinea circinata*, the surface of the ring is convex; in this it is ridged like the crest of a breaking wave. I believe this degree of elevation is, partly at least, attributable to the scratching. If carefully analysed, the spot is found to be made up of a series of concentric rings. From without, inwards, they are—1°, a brownish-red ring, about $\frac{1}{16}$ of an inch in breadth, lying apparently under the epidermis; 2°, the red elevated ring, from the ridge of which a complete circle of delicate, detached epithelium springs, its free edge looking inwards; 3°, a pale ring, with a glossy surface, surrounding 4°, a central brown, slightly raised spot, about $\frac{1}{8}$ of an inch in diameter. Ring on the back of the arm is not so distinct, and is not elevated. No redness nor thickening of the skin; but there is a slight deepening of colour at the outer margin, a distinct ring of delicate scales, a paler circle, and a darker spot inside, just as on the front of the arm; diameter of spot $\frac{3}{8}$ of an inch. Fungus in both plentiful.

18th day.—The spot in front is slightly larger, and a second ring of undermined and scaling epidermis is forming in the centre of the first; this second ring is $\frac{3}{16}$ of an inch in diameter. The brown central spot visible yesterday has disappeared, and the surface it occupied is now paler than normal. The patch on the back of the arm is also larger, but as yet there is no second ring forming, the central brown spot being still very distinct.

19th day.—Spot on anterior surface:—outer ring over $\frac{1}{2}$ an inch in diameter, inner ring $\frac{1}{4}$ of an inch. Spot on posterior surface:— $\frac{9}{16}$ of an inch in diameter, without a central second ring, but the included space is frayed, and looks as if it had been well scratched. He says the itching is now much less troublesome.

24th day.—Ring in front nearly $\frac{3}{4}$ of an inch in diameter. A third ring is now forming. On the back of the arm the eruption is more irregular. A third spot on the same arm, the result of another and later inoculation, is proceeding typically.

26th day.—PLATE III, representing the disease on the anterior surface of the arm, was taken.

27th day.—The patch in front is now $\frac{9}{16}$ of an inch in diameter, and a third ring has formed.

29th day.—A fourth ring has formed on both spots. No thickening or signs of inflammation. Scales are kept small by frequent washings. Ring in front nearly an inch in diameter.

31st day.—Four rings distinct and perfect.

36th day.—Five rings. There is now considerable irritation, especially about the outer rings, and a tendency to inflame and vesiculate; the circles are in consequence not so perfect. Greatest diameter nearly $1\frac{1}{4}$ inch.

41st day.—The weather has become very hot, and probably in consequence, the irritation in the spots has increased. The inner rings have been spoiled by scratching, but the two outer rings are quite distinct, though slightly inflamed. Diameter, $1\frac{3}{8}$ inch. The spot on front of arm protected by a cover, the other spots destroyed with iodine liniment.

Several days afterwards, when the covering was removed, the patch was found much inflamed; the rings could be traced, but the fungus apparently had died, as the disease made no further progress. The roughness and scaliness of the epidermis gradually subsided, and the part became natural in texture,

though from the slight alteration in the colouring of the skin, the site of the rings could be traced for weeks afterwards.

These experiments were repeated in two other cases with similar results.

I am indebted to Mr. E. ROCHER, of the Customs Service, for the photographs illustrating this paper.

From this description of a successful inoculation, the nature and distinctive characters of *tinea imbricata* can easily be made out. After inoculation, as in *tinea circinata*, there is an incubation period of about nine days. At the end of this time the fungus has multiplied sufficiently to slightly elevate the epidermis under which it is growing, and form a brown mass between it and the corium. When this has attained a diameter of about $\frac{3}{8}$ of an inch, the epidermis in the centre gives way; but as it is still organically continuous with the sound skin at its margin, it is not completely shed, but remains a fringe round the central hole. By friction or other means, the free edge of the scale is from time to time removed; and the brown central fungus and the tissues it is mixed with, now no longer protected by a closely adhering epidermis, are rubbed off as far as the attachment of the scale, and the exposed corium appears pale. Just beyond this point, the advancing fungus shows through the epidermis as a brown rim, perhaps very slightly elevated, about $\frac{1}{16}$ of an inch in breadth. When the entire ring thus formed has attained a diameter of about $\frac{1}{2}$ an inch, a brown patch is again seen to be forming at its centre; this in its turn also cracks the young epidermis over it, and a second ring is formed inside the first, which it follows in its extension. A third brown central patch is formed in the centre of the second circle, and behaves in exactly the same manner; and so on with a fourth, fifth and never-ending series of concentric rings. I have endeavoured to represent this diagrammatically in Figs. V, VII, and VIII, contrasting it with *tinea circinata* and *chloasma*.

FIG. V, I, represents a section of the skin through a patch of *chloasma*; the corium and rete Malpighii are entire, the epidermis alone affected and broken up into a number of minute furfuraceous scales.

FIG. V, II, a section through a newly-formed patch of *tinea imbricata*; the corium is unaffected, but the rete Malpighii is removed over a small part on both sides of the central brown spot; the scales of the ring in the epidermis are curled back, and no fresh epidermis has as yet formed over the centre of the ring.

FIG. V, III, section through a patch of *tinea imbricata*, in which many rings have formed—the corium being entire, but the rete Malpighii and epidermis interrupted at many points.

FIG. V, IV, spot of *tinea circinata* just formed; the upper part of corium bulged from infiltration; rete Malpighii and epidermis scaling.

FIG. V, V, the same, the ring having opened the corium; rete Malpighii and epidermis entire, except at the section of the ring.

FIGS. VII and VIII, ground-plan of *tinea imbricata* and *tinea circinata*, respectively.

There is a marked contrast between tinea circinata and tinea imbricata in the parts and extent of the skin they respectively attack. The former elects, in preference to any other locality, those parts of the body which are usually covered with hair, as the scalp, axilla and pubes; the latter, on the contrary, avoids these situations. The Chinese have very seldom a strong crop of hair on the front of the chest, on the small of the back, or legs and arms; yet these situations, so

frequently covered with hair in the European, are, strange to say, shunned by the fungus of *tinea imbricata*. If, however, *tinea imbricata* has spread on to a hairy part, the hair follicles are not invaded by the fungus, as in *tinea circinata*, and the hair continues firmly implanted, glossy and natural.

Again, *tinea imbricata*, if it has been in existence any length of time, involves a very large surface, as an entire limb, or side of the trunk, or oftener still, if not checked, nearly the whole surface of the body. *Tinea circinata*, though sometimes including in its rings large areas, yet, by its nature is hindered from attacking at one time the entire skin, as an interval must elapse before a second ring can follow the first. In point of fact, in *tinea circinata*, though there may be several rings in existence at one time, and some of them include a very large area, yet we seldom have to deal with surfaces more than six inches in diameter, usually with much smaller.

The disease advances over the skin at about the rate of $\frac{1}{4}$ of an inch weekly; this is about the rate of progress in *tinea circinata* also. As advancing rings spread, their regularity is modified by the shape of the parts, the nature of the skin they travel over, and by encountering other systems of rings. Thus, after a time, the plan is lost or obscured, while the pattern of the disease, so to speak, is everywhere preserved.

In fair-skinned races, *chloasma*, or *pityriasis versicolor*, shows as a brown or fawn-coloured patch on a light ground. In the dark-skinned races, on the contrary, it shows as a lighter coloured patch on a dark ground. In the yellow-skinned races, like the Chinese, in some the colour of the patch of disease and general complexion so nearly correspond that it is only by observing the scaliness and slight elevation of the part, and by the use of the microscope, that we can pronounce it *chloasma*. In coolies and those whose skin is darkened by exposure to the weather, the spot is always much paler than the healthy skin; in the pale sallow-faced shop-keeper, always darker than the healthy skin. A very large proportion of the natives of this district can show patches of *chloasma*, usually about the neck, chest or shoulders, or over the abdomen, just under the waist-belt. Every one is familiar with the mottled appearance the skin of coolies frequently presents. I have satisfied myself that this is *chloasma*, and is entirely owing to the *microsporon furfur*, which can be found in great abundance in any of these cases. The fungus I have contrasted with that from cases of *chloasma* brought from Europe and America, and find them to be identical. It is situated on the under surface of the outermost pellicle of epidermis, and the globular double-outlined conidia, arranged in clusters, and short much-jointed mycelium are quite characteristic. The colour of the *chloasma* spot is owing to the colour of the fungus, and not of the skin; and being the same or nearly the same in every case, it appears lighter than the skin in dark races, and paler than the skin in fair races.

LIMITED GEOGRAPHICAL AREA WITHIN WHICH *TINEA IMBRICATA* FLOURISHES.

An additional argument for separating this disease from *tinea circinata*, and placing it as a species by itself, is supplied by the peculiarity of its geographical distribution. I have seen a great many cases in Amoy, but, with one exception, all of these have been at one time in the Straits of Malacca, or islands of the Malay Archipelago, and it was there the disease was acquired. I have seen cases in South Formosa also, but as I made no enquiries as to where their skin

affection was acquired, I cannot say whether it was indigenous or imported. For a considerable part of the year, the climate of South Formosa is very like that of the Straits. The instance I refer to as having arisen in Amoy, was in the person of the relative of a man who had returned from the Straits covered with the disease. Disregarding this case, it would appear that some peculiarity of climate is necessary for the ready spread of the disease from person to person, although when once established in the individual it flourishes in China as well as in its home, as proven by the results of inoculation. Possibly, in the warm, moist, equable climate of the Straits, there is developed some fungus element which will not grow in the colder, drier climate of China, and the spontaneous spread of the disease is affected by this.

I believe that *tinea imbricata* is the disease described as "Pita," or "Tokelan itch," in the *Scheme for obtaining a Better Knowledge of the Endemic Skin Diseases of India*, edited by Drs. FOX and FARQUHAR, and also alluded to by Dr. THIN in a late *Practitioner*. If it is identical with the Samoan disease, we know that it spreads rapidly enough under suitable circumstances. As far as I am aware, there is no other epiphytic skin disease, with the doubtful exception of the fungus foot of India, with so limited a geographical distribution.

TINEA IMBRICATA THE CONNECTING LINK BETWEEN CHLOASMA AND TINEA CIRCINATA.

Assuming that I have proved the existence of a parasitic skin disease affecting the rete Malpighii, we have now, apart from those confined, or nearly so, to the hairy scalp, three well-marked epiphytic skin diseases, viz.:—*tinea circinata*, *tinea imbricata*, and *chloasma*, each affecting a different layer or element of the skin. *Tinea circinata* has its seat in or on the corium, or deep layer; *tinea imbricata* in the rete Malpighii, or middle layer; and *chloasma* in the epidermis, or surface; and to this selection or locality, rather than to any peculiarity in the habits of their respective fungi, seem to be due the characteristic clinical features of these different diseases. The epidermis, so abundantly and constantly reproduced, supplies a never-failing supply of pabulum for its fungus; so that, while spreading at the margin of the patch, there is no death of fungus or subsidence of the disease in the centre of the part affected, the disease relinquishing no place once attacked; hence its appearance in a circular patch, uniform in colour and texture throughout its extent. In *tinea circinata* on the contrary the fungus, living on some element of the more slowly reproduced corium, while spreading towards hitherto unexhausted, unaffected tissue, is compelled to relinquish what it has already passed over, dying for want of the suitable element; hence it assumes the form of a single ring. *Tinea imbricata* is the link both in position and appearance between these two, as the rete Malpighii occupies a place intermediate in position and facility of production between corium and epidermis. The pigment layer is not so easily or rapidly formed as is the epidermis; hence the fungus cannot be universally distributed as a patch over the affected part; but the tissue being more easily and quickly reformed than the corium, the fungus element has the opportunity of starting afresh before from lapse of time or want of food it has completely died out; thus its successive generations advance in succeeding rings.

I am aware that many dermatologists favour the view that the various skin fungi are but modifications of either *penicillium* or *aspergillus*, and of each other, and that the same fungus

will give rise to favus, chloasma or tinea circinata according to circumstances. I cannot agree with this opinion. If it is correct, how comes it that in the same man I can by inoculation, as often as I wish produce on one arm tinea circinata from a case of tinea circinata, and at the same time, on the other arm tinea imbricata by inoculating from tinea imbricata; but never tinea circinata from tinea imbricata, or *vice versa*? The diseases at any rate, whatever may be the nature of their exciting fungi, possess the most essential quality of distinct species—they breed true.

B.—Dr. MANSON's Report on the Health of Amoy for the Half-year
ended 30th September 1878.

THE health of the port for the six months has been unusually good. There has been no death among the residents or foreign sailors, nor has there been any case of very serious illness among the former. Two deaths occurred in hospital, one from abscess of the liver, the other from cancer, but in neither instance was the disease contracted in Amoy.

The case of cancer was an ordinary one of secondary cancer of the submaxillary glands following on an epithelioma of the lower lip excised some months before.

There were some points of interest in the case of abscess of the liver which deserve mention.

The patient was in the Customs Out-door Staff and had been many years resident in China, in Shanghai, Hankow, and latterly in Canton. His illness appeared to date from the 5th February 1878, although prior to that he had suffered in Shanghai from bronchitis or asthma. On the date mentioned he was suddenly seized with acute pain in his right side, accompanied by fever. The pain gradually subsided, but from that time he became liable to attacks of fever, which on account of the severe and long-continued rigors preceding them, were attributed to malaria and called ague. He took quinine frequently and in large doses; but finding no benefit and gradually getting worse, after a stay of some duration in hospital in Hongkong, he applied to be sent to Takow. He had acquired a severe cough by this time, and it was principally on account of this that he selected South Formosa, being under the impression that the mild and equable climate would be beneficial. While passing through Amoy he became so ill that he determined to come ashore to hospital. The principal symptoms were then emaciation, a cachetic appearance, cough, dyspnoea on lying on the left side, severe rigors and fever at irregular intervals, and some fulness at the epigastrium. There was no history of dysentery. The enlargement of liver dulness was not very marked in the axillary or nipple lines, but in the epigastrium it was decided, and on causing him to stand up a distinct rounded bulging was visible in this situation evidently connected with the liver. There was little or no tenderness and no feeling of fluctuation. Large doses of quinine were again tried but without success. Inhalation of nitrite of amyl appeared to have some influence in cutting short the rigors which recurred every day or two. A diagnosis of deep-seated abscess of the liver was arrived at on the following grounds:—the history of acute pain in the right side three months before; severe cough without any objective evidence whatever of disease of the lungs; the peculiar decubitus, the wasting and anorexia; the severe rigors and fever; the localised liver enlargement. Simple enlargement of the liver from malarial fever was excluded by the facts that the enlargement was not general; that the fever first showed itself in a non-malarial season; by its irregularity and the impotence of quinine in checking it; and by the non-implication of the spleen.

As the man was evidently dying it was determined to give him the chance of aspiration, although from the absence of most of the physical signs of abscess there was still some doubt about the diagnosis. The instrument was introduced at the most prominent point of the swelling in the epigastrium and thrust backwards upwards and to the right, but though passed in to its full length no pus appeared. The trocar was again introduced and the instrument firmly pressed against the skin so as to make the swelling bulge inwards, and kept in this position. On the withdrawal of the trocar pus flowed freely, and over twenty ounces were withdrawn. The cough and other symptoms were relieved for a few days, but as they returned

again the operation was repeated. After the second operation there was less improvement in the general symptoms, and he gradually sank and died of exhaustion on the 5th of June, twenty days after the first aspiration.

At a *postmortem* examination all organs were found quite healthy with the exception of the liver. In it there was a large abscess at the posterior part of the right lobe. It was quite encapsuled, the walls of the abscess sac being thick, firm and non-collapsing. No inflammation and little adhesion on the surface of the liver. The track of the aspirator was almost invisible. The abscess could have been reached more easily from behind.

From the appearance of the sac of the abscess I concluded that suppuration had occurred many months before it was aspirated, and that the failure of the operation in this instance, to give permanent relief was, partly at least, owing its having been delayed too long, and not undertaken until the induration of the abscess walls rendered their collapse impossible.

C.—Dr. BRERETON's Report on the Health of Chefoo for the Half-year
ended 30th September 1878.

THE general health of the community during the past six months has been exceptionally good, and although we have had an unusual amount of rain, yet it has not been productive of any increase in intestinal disorders. The temperature during April, May, June and September was much the same as during the corresponding period last year; but the months of July and August were warmer by some degrees. In these months last year the mercury passed 90 degrees upon 3 days only, whereas this year it stood over 90° upon 19 days. In July we were occasionally visited by hot and oppressive gusts of wind from the south. On one of these occasions the temperature ran up to 103°, but very soon fell to 88°, and was closely followed by a storm of lightning and rain which quickly cooled the atmosphere. Thunderstorms were very frequent during the entire summer, and conduced in no small degree to the comfort and wellbeing of all.

For the following table I am indebted to the Harbour Master, Mr. JENNINGS:—

TEMPERATURE TABLE.

—	1877.					1878.				
	DAY.		NIGHT.		No. of days Rain.	DAY.		NIGHT.		No. of days Rain.
	Max.	Min.	Max.	Min.		Max.	Min.	Max.	Min.	
	°	°	°	°		°	°	°	°	
April.....	93	40	73	41	3	87	34	66	36	4
May.....	85	44	68	48	4	88	42	63	42	6
June.....	93	54	84	54	1	92	52	74	59	9
July.....	96	63	78	64	1	103	64	83	65	8
August.....	91	60	78	62	1	98	62	82	62	4
September.....	89	56	72	57	1	90	55	75	60	3

Five deaths occurred during the summer:—

- 1.—An adult, from cerebral apoplexy. *Resident.*
- 2.—A child aged about 3 years, from remittent fever associated with enlarged spleen. *Visitor.*

- 3.—A *quasi-resident*, from dysentery, contracted at another port.
- 4.—An adult, aged 51, from chronic diarrhoea complicated with cystitis. *Visitor*.
- 5.—A seaman on board a Russian gunboat, cause of death not known.

The first case was that of a stout female, under the medium height, aged about 45 years, married, had one child now living aged 13 years.

Had been in tolerably good health until the day previous to the attack when she complained of pain over the right temple, which did not however prevent her feeling otherwise well. Walking across a room she felt giddy, and was about to fall, when she was caught, and being found unconscious was placed in bed. When seen ten or fifteen minutes later she was quite conscious, but had no pain; there was complete paralysis of the left upper extremity, and incomplete paralysis of the left lower extremity. No resistance whatever was experienced when flexing the forearm upon the arm, or the leg upon the thigh. Tongue protruded to the left, mouth drawn to the right.

An hour afterwards she again became unconscious, breathing stertorous, pupils small, pulse weak and intermittent. In this state she continued for two hours, when consciousness returned, but she could not articulate; pulse still very small and intermittent. Slept a little during the night. Next morning took some beef tea with difficulty. Pupils contracted, ptosis; moans frequently and indicates she has pain in the dorsal region; throws the right arm and leg about constantly; involuntary micturition. Towards evening the mouth seemed to have a natural appearance, not distorted in any way.

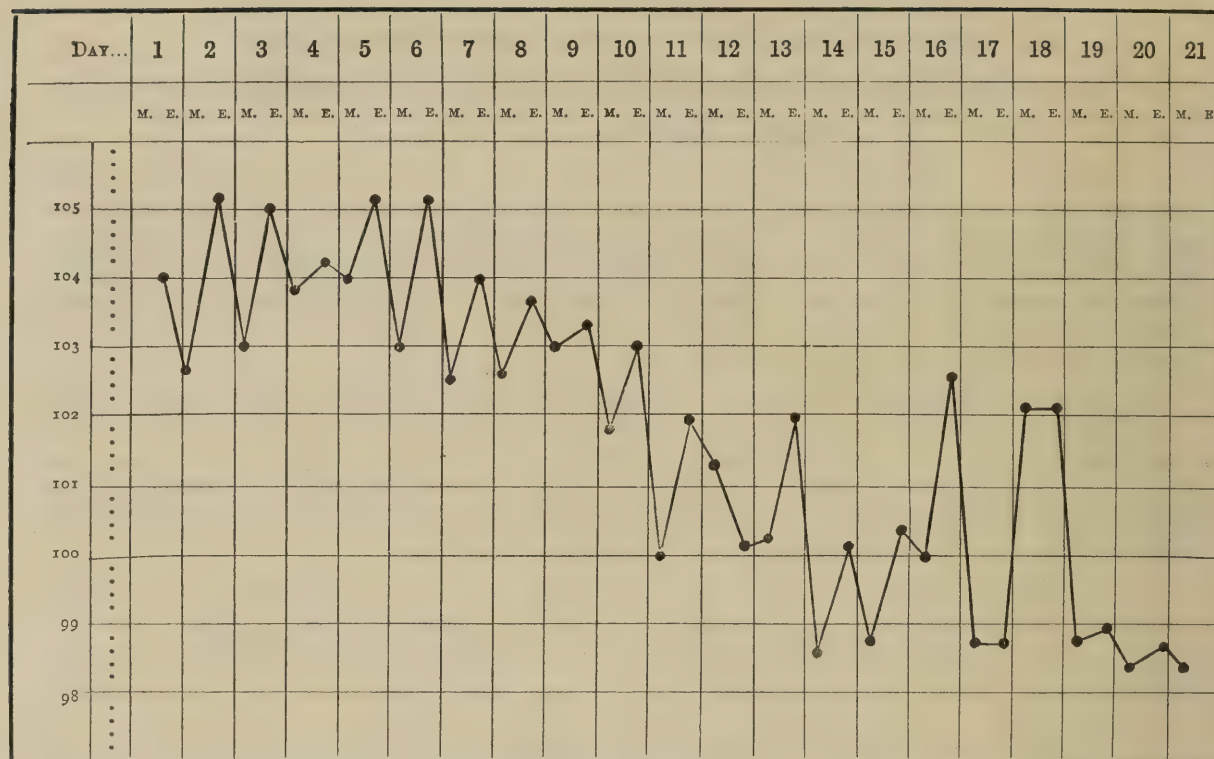
3rd day.—Slept a little during the night, was very restless, moving the sound limbs constantly, ptosis, unable to protrude the tongue or swallow anything. During the afternoon had slight dyspnoea.

4th day.—Slept for an hour during the night; is now unconscious. Ptosis, breathing stertorous; pupils contracted; mouth seemed to be drawn to the left side. Died, 1 P.M.

During the prevalence of typhus fever in the north, two patients were treated here. One represented a severe type of the disease, and appeared to owe his recovery to alcohol with which he was mainly treated.

He was about 30, anæmic in appearance, but had always been healthy and temperate. When admitted into hospital he had been ill for fourteen days; had a hot dry skin, brown tongue, temperature 104°, pulse 120°. There was no diarrhoea. A few typhus spots were visible. He was ordered brandy, 5oz., and a mixture of nitromuriatic acid and quinine. Next morning in spite of chloral and morphia he was extremely violent, but $\frac{1}{2}$ grain of morphia hypodermically controlled the delirium and induced some hours of sleep. Delirium recurring during the night, and continuing along with high temperature during the succeeding days, the brandy was administered in increasing quantities, and with obvious good effect until the 6th day, when though taking 20 ounces in the 24 hours he presented a most unfavourable aspect, eyes half closed, dorsal decubitus, muttering delirium, tremors and floccitatio. Spoken to loudly, he opened his eyes and stared vacantly, and when ordered to put out his tongue, slightly parted his lips, which were black and covered with sordes. Urine passed unconsciously.

The brandy was then increased to 1½ ounce every hour. The next day there was a considerable improvement, temperature lower, perspiration profuse; had two loose motions during the night, and had slept well. After this he daily gained strength and his appetite improved for about ten days, when severe spasmodic stricture of the urethra declared itself, defying hot baths, opium, the catheter, etc. It fortunately relaxed just as operative measures were being contemplated, the symptoms having become urgent. This was the only interruption to his complete recovery. (See Chart.)



The quantity of alcohol administered in this case though large was imperatively demanded, and it seemed that the effect of the brandy was more decided when given in comparatively large doses as an ounce and a half at rather long intervals than when the same amount was administered in divided doses at comparatively short periods.

The second case did not present any special peculiarity worthy of note. Towards the end of the first week it became necessary to administer about 4 ounces of brandy a day, which produced considerable improvement. By the end of the second week the fever had disappeared.

No cases of either remittent or intermittent fever occurred among residents during the last twelve months; in fact Chefoo enjoys an immunity from these fevers. Nor were there many cases of diarrhoea on shore. Those that did occur were mild and easily yielded to treatment, except in one instance where considerable pyrexia supervened, the temperature rising to 104.5° ; the patient however recovered in about a week.

The number of cases of this disease treated among visitors and shipping was very large; on two or three occasions whole crews of ships were affected at the time of their arrival in port, some of them already seriously debilitated, having suffered in some instances for a month or six weeks. All attributed their sickness to either bad water or unwholesome food. On one occasion the whole crew of a ship after leaving a southern port became so seriously affected with vomiting and purging that they had to return and obtain a fresh supply of water, after which most of them

recovered. One man however continued ill, and ultimately became so prostrate that it was feared death would take place before arrival at their destination. On another occasion I found that the sick crew of a British ship had been fed on corned meat purchased at auction at a cheap rate, and so horribly putrid that it was surprising how it could have been eaten at all. On pointing out its condition to the captain, the remaining stock of it was thrown overboard.

The following case of intussusception occurred in a male child aged 8 months, and is worthy of note inasmuch as recovery in such cases is rare, and the symptoms throughout were milder than usual, proving, I think, that although invagination had taken place, complete obstruction had not occurred.

The patient had been previously subject to constipation, but otherwise was in perfect health and was breast-fed by its mother. The mother having taken overnight two Holloway's pills which griped considerably, next morning the child became very fretful and was given a teaspoonful of castor oil, which it vomited. The dose was repeated after a few hours, but though retained did not operate. During the day everything swallowed was rejected, and in the evening an enema was given, which produced a small soft faecal motion. When seen shortly after this, the child had with great straining just passed a motion of almost pure red blood, rapidly followed by another in my presence. The skin was hot and dry, great fretfulness, no tenderness over abdomen, but some bulging and hardness was detected a little to the left of the umbilicus.

2nd day.—Had been constantly straining since last visit, but passed nothing except brown watery fluid with a trace of blood; vomits whenever food is taken. No tenderness anywhere over abdomen, a long stomach tube was passed up to the sigmoid flexure, but could not be passed higher. A quantity of warm water was then injected, but came away at once. This having failed, hot baths and opium were resorted to.

3rd day.—Drowsy from the effect of the opium, skin hot, vomiting whenever the breast is taken. Constantly straining, but passing nothing except about a teaspoonful of brown watery fluid. Swelling in abdomen more apparent. Towards evening, very restless, screaming occasionally and rolling about as if in pain; tongue clean.

4th day.—Had been constantly straining during the night until 6. A.M., when 2 large loose yellow motions were passed containing some mucus. Skin moist. Took the breast without vomiting. Had very little straining since last large motion; occasionally makes a slight attempt at vomiting. During the afternoon had occasional paroxysms of pain evinced by screaming, rolling about, and tenesmus. Has not vomited, but evident nausea. Had a slight watery motion; passed urine for first time since illness.

5th day.—Occasional severe paroxysms of pain, no motion, but constant nausea.

6th day.—No change. Paroxysms almost hourly, after which is quiet and sleeps a little; abdomen not swollen, but is tender to left of umbilicus; had 3 or 4 motions of dark feculent liquid.

7th day.—Better, is bright and cheerful, paroxysms less severe and less frequent. Slept tolerably during the night. Passed one large bilious-looking motion with little straining; abdomen soft and tender.

8th day.—Passed a restless night, crying frequently, but sometimes seems to be perfectly well; had 3 large bilious liquid motions, no straining.

9th day.—Last night was spent constantly crying and screaming; had 3 motions of same character, no straining.

10th day.—Better, no screaming or tenderness over abdomen, or straining. Takes the breast without any attempt at vomiting; had two or three motions of same character. In this state he continued for ten days, then passed several bilious motions of the consistence of treacle. Five days afterwards he passed the first solid motion for 25 days and has since remained in perfect health.

D.—Dr. RINGER's Report on the Health of Tamsui and Kelung for the Year ended 30th September 1878.

DURING the past year rain has fallen in Tamsui on 118 days, and the hot season has been prolonged and trying.

There was an unusually large number of cases of sickness among the foreign community this summer, malarious fevers ranking high in the list.

One case of remittent fever occurred in which the life of the patient was endangered; it was marked by constant restlessness and want of sleep, wandering talk, complete loss of appetite and frequent vomiting. Quinine appeared to have no marked effect. I advised the removal of this patient to the mainland; he was therefore carried on board a steamer for Amoy, and after several weeks of medical treatment at that port under the care of Dr. MANSON, returned in good health and was able to resume his duties here.

My reasons for advising the speedy removal of this patient, who was much exhausted and but partially conscious at the time, were as follows:—

During the previous summer he had, for the first time in his life, he states, been prostrated by a very severe attack of remittent fever from which under careful treatment he made a slow and protracted recovery, the loss of appetite, vomiting and restlessness at night being most persistent. Finding that his recent attack was brought on by a slight exposure to the sun and that grave symptoms quickly supervened, which day by day became more serious, the temperature reaching 104° notwithstanding the administration of salines during the febrile stages, and quinine during the remissions, I deemed it advisable, remembering the length and seriousness of his previous attack, to urge his removal from the port. This was carried into effect with the result mentioned above, and I am strongly of opinion was the means of saving this patient's life.

Several cases of intermittent fever were treated.

One of these was marked by the extreme violence of the cold stage, during which the patient became perfectly unconscious, while his body was contorted by most powerful muscular contractions of considerable duration. This condition was followed immediately by complete prostration and dry heat, the insensibility continuing and the convulsions occasionally returning during a space of several hours, after which copious perspiration accompanied returning consciousness, the patient complaining of intense headache and great thirst. After several repetitions of these attacks, which were treated during the intervals with 10 grain doses of quinine, the patient still complained of extreme headache and want of sleep, which yielded to bromide of potassium and opium. Towards convalescence a large crop of boils covered the forehead and other parts of the body, which eventually healed and left the patient in good health.

I have noticed lately that several cases of malarious fever have been followed by a large crop of boils, which seemed to me to be an effort of nature to throw off some effete material with which the blood was saturated.

The above form of intermittent fever is I think rare out here, but according to TROUSSEAU (*Clin. Méd.* iii. 431) it is extremely common in Algeria, in the neighbourhood of Rome, and in some parts of France.

Two births and two deaths have to be recorded.

The first death occurred in October 1877, from puerperal fever, after a labour which I understand was, as on three previous occasions, perfectly natural. Three days before death I was in attendance, when puerperal fever had manifested itself. The delirium throughout was of a very mild form. Treatment was powerless to do more than afford relief, and the patient died with all the symptoms of blood poisoning.

The second death took place in September 1878.

A pale, delicate boy nearly four years old was seized one morning with a sudden convulsion which continued for a short time, leaving the patient perfectly insensible. Breathing soon became difficult from the collection of mucus in the throat. This condition lasted for 2 hours, when another fit, not so violent as the former, occurred. The dyspnoea now increased rapidly and the child expired quietly 3 hours from the commencement of the first attack, never having recovered consciousness sufficient to answer questions, though he seemed once or twice to try to cough when loudly told to do so.

This child had complained of feeling feverish the morning before the attack, but in the afternoon was so much better, that he was running about the house, where he probably received a chill as the weather was very wet. The next morning he was in a state of high fever and complained of pain in the head. The temperature in the axilla was 106.6° , and the pulse between 140° and 150° . During the attack the head was cooled with wet cloths, and during the second fit the body was placed in hot water, the head and neck being still kept cool; the bowels were opened twice involuntarily, the motions appearing healthy. After the bath the convulsive movements ceased, but the patient though quieter seemed more exhausted and died shortly afterwards. There was no *postmortem*.

E.—Dr. A. R. PLATT's Report on the Health of Chinkiang for the Year
ended 30th September 1878.

For the appended record of meteorological observations I am indebted to Mr. GUNTHER, Harbour Master. In so brief an abstract it is almost impossible to note the sudden thermometrical changes, heavy snow and rainfalls or severe thunderstorms, which have made the year distinctive in the weather annals of this port, yet it will be observed that we have experienced greater extremes of temperature during the year than in any like period of time of which we possess reliable meteorological data. With so decided a climatic change it would be reasonable to presume a like alteration in the character and prevalence of diseases commonly met with in this region, yet with the exception of malarious fevers, which were somewhat prevalent during the summer as compared with former years, and that very much larger doses of quinine were not only tolerated but required in their treatment, I have failed to note, either among foreigners or natives, any unusual form of disease which might be attributed to climatic influence. Nor has the amount of sickness been excessive. There has been no epidemic, and even small-pox, so constantly met with here during the winter and early spring of former years, was rarely seen.

The health of the foreign residents was good, and no death occurred among them.

I have observed a form of skin disease presenting all the essential symptoms of ecthyma, yet with others that do not properly belong to that affection, and all so aggravated as to make the variety unique in my experience. It appears to be peculiar to workers in salt, if I may judge from the four cases that I have seen, all of whom were females, and all engaged in salt smuggling. They did not hesitate to attribute their condition to their daily habit of carrying large quantities of salt in girdles directly next the skin, so as to be concealed by their clothing, although, as the eruption first appeared on the hands, they were more inclined to charge it to the preparation of the packages than to the transportation, and informed me it was quite common among the people at the salt stations whence they procured their illicit supplies. There can be no doubt that many of the symptoms were due to the absorption of salt in such quantities as to produce serious constitutional disturbance, quite aside from any effect it may have had as a local irritant. The symptoms taken in order were constipation, headache, fever, the tongue covered with a brown fur, and fissured; the throat dry and inflamed, great thirst, loss of appetite, and in the most advanced case, vomiting. The face was pallid, and like the entire frame badly nourished, the hair scant and without lustre, and the nails dry and brittle. The palms of the hands and soles of the feet were covered with hard, dead skin which flaked off, leaving an inflamed surface, while the arms and legs were covered with minute scales. There was intense itching over the entire

surface. Scattered over the body, but more particularly in the cervical and inguinal regions, were groups of phlyzacious pustules which later on were heavily incrustated, or converted into open ulcers with highly inflamed edges of irregular outline. In one case the eruption had extended from the neck to the face, and the subsequent ulceration was so deep and extensive, and the crusts covering it of such size as to resemble rupia so closely that I was tempted to regard it as syphilitic in character without reference to the previous history. All the four cases were treated with diuretics and laxatives, followed by tonics, the muriated tincture of iron appearing to have excellent effect. Locally I applied a lotion of borax to allay irritation, with carbolic and zinc ointments to ulcers. This line of treatment combined with change of occupation was attended with very satisfactory results.

For the past two years I have made constant trial of the therapeutic action of salicylic acid, for the purpose of trying to confirm a few of the score of virtues its advocates would claim for it, and have also, in a measure, engaged in independent research. While I am aware that the subject has already been very fully discussed, it may be interesting to briefly review my experience. One of the chief difficulties in administering the acid has been to obtain a satisfactory solution or vehicle for it, for given in the natural state it sets up an irritation of the fauces and stomach, almost as unbearable as the disease against which it is directed. Without enumerating the many published formulæ which I have tried, none appears to give a better result than the following by Dr. DUFFEY, of Mercer's Hospital:—

R. Acidi salicylici, gr. 120; liq. ammon. acetatis, ℥ij; aquæ, ℥vj.

He administers one-eighth part of this (=gr. xv of salicylic acid) every hour in acute rheumatism only, but I have found the solution a convenient one from which to prepare gargles, lotions, and injections. In this form I have with very good result prescribed the acid in several cases of acute rheumatism, and while I have seen cases wherein the recovery was tardy, or it appeared advisable to alter the treatment on account of the irritability of the stomach, I cannot but regard the acid as a valuable agent in this form of rheumatism. In chronic rheumatic arthritis, typhoid and intermittent fevers, I have given what would be considered a fair trial to the acid, with an average result the reverse of satisfactory.

But whatever doubt may rest upon the acid as a general remedy, I feel assured it will yet rank high as a local agent, in the treatment of dermatophytic diseases, diphtheritic pharyngitis, catarrh, and wounds, while with an injection of grs. ij to an ounce of water, I have had some very good results in gonorrhœa and uncomplicated gleet. Combined with glycerine in the form of ointment (℥j of acid to glycerine ℥ij) I can recommend it as almost a specific in the various forms of tinea, or rather many of them. I have had four cases of chronic eczema of the feet, so common among foreigners in China, the treatment of which I had prepared to abandon as hopeless, but tried the acid ointment as a last resort. One case was of three years standing, during which time the feet had never presented a healthy appearance. The application of the acid was followed in a day or so by exfoliation of the epidermis, after which healthy skin quickly formed, and there has been no return of the disease in any of the cases. It was sometimes required to make a second, and even third application, not only in eczema but in tinea, in which case I now use an ointment of ℥ij of the acid to ℥j of lard, to prevent the burning sensation of which patients bitterly complain.

Abstract from the Meteorological Readings taken at the Harbour Master's Office, Chinkiang.

MONTHS.	BAROMETER.				THERMOMETER.				WINDS.						WEATHER.	
	DAY.		NIGHT.		DAY.		NIGHT.		Number of days N. to E.	Number of days E. to S.	Number of days S. to W.	Number of days W. to N.	Number of days Calm.	TOTAL.	Number of days Rainy.	Rainfall in inches.
	The highest reading and the average highest.	The lowest reading and the average lowest.	The highest reading and the average highest.	The lowest reading and the average lowest.	The highest reading and the average highest.	The lowest reading and the average lowest.	The highest reading and the average highest.	The lowest reading and the average lowest.								
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>°</i>	<i>°</i>	<i>°</i>	<i>°</i>								
1877.									<i>d. h.</i>	<i>d. h.</i>	<i>d. h.</i>	<i>d. h.</i>	<i>d. h.</i>	<i>Days.</i>		
October.....	30°79 29°40	30°02 29°33	30°75 29°40	30°10 29°66	76 65	42 59	75 61	47 55	2 0	16 0	2 0	9 0	2 0	31	1	0°05
November...	30°95 30°53	30°08 30°11	30°91 30°54	30°09 30°41	70 50	36 40	63 50	35 40	10 21	11 21	0 15	6 15	...	30	8	1°02
December....	31°05 30°55	29°98 30°50	30°98 30°59	30°19 30°52	51 41	26 38	52 40	28 37	12 18	8 21	...	9 0	0 9	31	4 2	1°04 Snow
1878.																
January.....	31°05 30°70	30°08 30°66	31°05 30°73	30°05 30°68	45 32	17 27	46 28	15 23	11 3	7 18	2 18	8 12	0 21	31	3	Snow
February.....	30°97 30°67	30°15 30°59	30°97 30°64	30°15 30°60	46 39	27 35	46 37	25 34	8 3	10 3	2 9	7 6	0 3	28	4 1	0°45 Snow
March	30°75 30°50	30°12 30°41	30°75 30°48	30°15 30°43	71 54	35 40	68 50	32 43	6 9	18 9	1 12	4 9	0 9	31	9	1°12
April.....	30°66 30°30	29°78 30°23	30°67 30°30	29°82 30°20	83 60	42 53	75 59	40 51	6 21	11 15	3 18	7 11	0 7	30	17	9°70
May.....	30°50 29°98	29°22 29°91	30°50 30°02	29°60 29°94	83 72	58 65	79 69	55 63	6 11	13 0	2 15	8 9	0 13	31	11	3°86
June.....	30°25 29°89	29°43 29°83	30°26 29°96	29°42 29°85	90 80	65 74	91 77	60 64	1 19	21 10	3 12	3 7	...	30	4	2°29
July.....	30°04 29°82	29°61 29°79	30°05 29°86	29°66 29°81	96 85	66 78	92 83	68 77	8 3	8 18	9 12	4 7	0 8	31	14	12°46
August.....	30°17 29°93	29°70 29°92	30°20 29°97	29°64 29°93	94 87	70 82	92 85	68 80	5 3	16 9	6 9	3 3	...	31	10	3°63
September...	30°31 30°09	29°70 30°03	30°35 30°11	29°67 30°05	81 77	69 71	81 76	68 72	17 6	9 3	0 6	3 3	0 6	30	4	1°24

REMARKS.—Coldest day 8th January, 15°. Hottest day 26th July, 96°.

F.—Dr. A. G. REID's Report on the Health of Hankow for the Year
ended 30th September 1878.

At this port the medical attendance on natives has of late years been carried on at three missionary hospitals and dispensaries, and the disorders met with recorded in their annual reports. The only epidemic disorder which came under my notice was a number of cases of sporadic cholera. The disease attacked the workmen engaged in the Brick Tea factories, and it also appeared among the natives residing in the convent.

Out of a total of over six hundred workmen, twelve died of the disease, and in the convent it only proved fatal to six aged patients; the young recovered readily. The disease was marked by severe watery vomiting, purging, cramps, collapse and great mental prostration, and the aged and debilitated sank from it within 24 hours.

An unusual number of vessels remained in port during the summer months, and the health of the crews was satisfactory, the only climatic disorders being a few cases of dysentery, and malarious and heat fever of mild types.

A serious case of extravasation of urine occurred on board one of the ocean steamers, six hours previous to arrival in port. The necessary incisions were made and gave exit to a large quantity of urine. On the following day a small whalebone bougie could be passed through the stricture which was situated four inches from the meatus. The patient remained a month on shore, when he had so far recovered as to be able to pass a No. 6 indiarubber catheter, and the wounds had cicatrised, with the exception of a space on the upper surface of the penis, for which skin grafting would probably be required.

A few cases of dysentery and malarious fevers were met with among the foreign residents.

One instance of the latter was complicated by inflammation of the right lung, and in another patient it was accompanied by acute hepatitis, great tenderness over left lobe of liver, dulness in line of ensiform cartilage $4\frac{1}{2}$ inches, with distinct prominence in epigastrium. There were also marked rigors and heavy night sweats, and the patient could neither lie down flat nor turn in bed on account of intense pain in the hepatic region. For several days it seemed certain that abscess must ensue, but under the use of quinine and large and frequent doses of muriate of ammonia (20 grains six times a day), the symptoms gradually subsided and recovery was complete by the end of six weeks.

The notes of a case of brain symptoms following exposure to the sun may be of interest, as the patient recovered after a long and serious illness.

— Feeling in perfect health, went out canoeing at 3 P.M. on an intensely hot day and with the head only protected by a straw hat. He returned at 5.30 exhausted, and during the evening vomited, complained

of severe headache and feverishness. Next day he attempted to carry on his office work, but had great difficulty in doing so on account of severe headache, drowsiness and hazy recollection of things. He also vomited several times after tiffin. In the evening medical advice was sought. July 31st, 8 P.M., pulse 100, temperature 104°. Tongue covered with thick brown fur. Nausea and occasional retching and vomiting. Face flushed, racking pain in forehead, drowsy and inclined to sleep in short snatches. Head feels burning hot to touch. Bowels not moved for two days. Urination frequent, scanty and with red deposit. A calomel purgative was administered, cold applied to head, the patient placed in bed under a punkah, and told to take on awakening in the morning 10 grains of quinine three times at intervals of half an hour. Bowels were moved twice in night. The second dose of quinine was vomited at 5.30 A.M., and the patient then lay down in an open verandah exposed to the east, where he was found asleep at 7.30 A.M., and only protected from the sun's rays by the ordinary bamboo blind. August 1st, 8 A.M., pulse 100, temperature 104°; 4 P.M., pulse 110, temperature 105°; 10.30, pulse 90, temperature 103°.5. Ice bag has been applied to the head throughout the day and the body frequently sponged with cold water under the punkah. 30 grains quinine administered at 9 A.M. was vomited, and a like dose was then given by enema. The patient has been drowsy and delirious all day, waking when spoken to, but replies irrationally. Puts hand to forehead, wrinkles eyebrows constantly as if in pain. Eyes not congested, pupils normal. Catheterisation became necessary. Aug. 2nd, very restless during the night, snatches of sleep and then starting up. 8 A.M., pulse 100, temperature 104°. Enema of castor oil and turpentine acted freely. Bath at temperature of 80°, with douching for ten minutes, when the skin felt cool. 10 A.M., sleeping quietly; temperature 102°. 3 P.M., pulse 96, temperature 103°.2. Again becoming restless. Bromide of potassium, 30 grains, was administered, and repeated at 5 P.M. Does not recognise those near him, replies at random to questions, but when requested puts out tongue. 9 P.M., very restless. Bromide of potassium with chloral, repeated at 10 P.M. induced a quiet night, but there was little sleep. The bowels were moved twice in bed. Aug. 3rd, pulse 88, temperature 102°; very restless but forehead now cool and skin moist. Constantly muttering and tossing in bed. P.M., pulse 104, temperature 103°. Aug. 4th, 8 A.M., pulse 76, temperature 100°; jerking of extremities, especially of left side. Slept at intervals during the day, but would not reply to questions. Catheter no longer required, as there is involuntary micturition as well as defæcation. 9 P.M., pulse 96, temperature 101°. Bromide of potassium with chloral at 10 P.M. Aug. 5th, 6 A.M., pulse 92, temperature 101°; 11.30, temperature 102°; 4 P.M., pulse 104, temperature 103°. Lies in a drowsy state, but takes milk and beef tea readily. Has not spoken for two days. Quinine, grains 30. Ice reapplied to head. 9.30, temperature 101°. Aug. 6th, 7 A.M., pulse 88, temperature 99°.4. Seems more observant of those around him. 5 P.M., pulse 88, temperature 99°.4. Answers now in a mumbling manner and incorrectly. Twitching, especially of left arm, and signs of suffering when it is raised. Lifts right arm in shaky tremulous manner to wipe the face. Aug. 7th, 8 A.M., pulse 96, temperature 101°. Had a quiet night, sleeping at intervals. Quinine, grains 30. 5 P.M., pulse 100, temperature 101°.2. Won't submit to be turned on side. Head cool and moist. Slept from 9 to 12, and then took a draught of chloral and bromide of potassium, and slept till 7 A.M. Aug. 8th, 7.30 A.M., pulse 96, temperature 101°. Recognised me, but wanders when questioned. Two pills of aloine and jalapine were given. One was swallowed and the other chewed without complaint of taste. Tongue projected to right in jerky manner and instantly withdrawn. Spasms now limited to left upper extremity. 4 P.M., temperature 102°. 9 P.M., temperature 103°. Quinine, grains 30. Aug. 9th, pulse 108, temperature 103°. Cannot protrude tongue for more than a second, when it is snatched back into mouth, and is dry and brown. When raised a little in bed he cries as if in pain, and there is great tremor and spasm of extremities. A castor oil and turpentine enema acted freely. 8 P.M., quinine, grains 30. Slept quietly till 12 o'clock and then had draught. Aug. 10th, tongue moist; pulse 120, temperature 101°. Rambling about business. 4 P.M., pulse 120, temperature 102°. For two days has been taking a mixture of liq. ammon. acet. and nitric ether. Aug. 11th, quiet night after draught; pulse 100, temperature 101°. 6 P.M., pulse 116, temperature 102°.2. Slept during the greater part of the day and retains urine. Aug. 12th, A.M., pulse 108, temperature 101°. 5 P.M., pulse 116, temperature 102°. 9 P.M., pulse 120, temperature 103°. When raised in bed, there is great tremor of extremities and not the least power of supporting himself. Aug.

13th, quinine, grains 30 at 6 A.M. 8 A.M., pulse 96, temperature 101. 9 P.M., pulse 100, temperature 101°.2.
Complains of pain all over body and extremities. Tongue choreic.

	14th	A.M.	Pulse	84	Temp.	99.°2	5	P.M.	Pulse	92	Temp.	100°	9	P.M.	Temp.	101°
	15th	"	"	92	"	101	"	"	"	96	"	100.4	"	"	"	101
	16th	"	"	96	"	100.4	"	"	"	96	"	101	"	"	"	101.2
	17th	"	"	108	"	100.2	"	"	"	104	"	102	"	"	"	100.3
	18th	"	"	112	"	101.2	"	"	"	112	"	102	"	"	"	100.4
	19th	"	"	112	"	101.1	"	"	"	120	"	101.2	"	"	"	101.2
	20th	"	"	96	"	101	"	"	"	112	"	102	"	"	"	103
	21st	"	"	108	"	101	"	"	"	112	"	101.2	"	"	"	101.2
	22nd	"	"	116	"	101.2	"	"	"	104	"	99.1	"	"	"	100
	23rd	"	"	112	"	99.4	"	"	"	112	"	100	"	"	"	100
	24th	"	"	106	"	100	"	"	"	100	"	100	"	"	"	101.2
	25th	"	"	88	"	99	"	"	"	92	"	99.4	"	"	"	99
	26th	"	"	92	"	99	"	"	"	92	"	98.4	"	"	"	99
	27th	"	"	92	"	98.4	"	"	"	92	"	99	"	"	"	99
	28th	"	"	104	"	99.2	"	"	"	108	"	99.4	"	"	"	100.2
	29th	"	"	100	"	98.2	"	"	"	108	"	99	"	"	"	100
	30th	"	"	100	"	99	"	"	"	96	"	98.2	"	"	"	98.2
	31st	"	"	104	"	98.2	"	"	"	—	"	—	"	"	"	99
Sept.	1st	"	"	108	"	98.2	"	"	"	96	"	98.2	"	"	"	98.2
"	2nd	"	"	92	"	98.2	"	"	"	92	"	99	"	"	"	99

About the 25th August questions were answered with some degree of intelligence. On the 20th he sat up for a short time in bed, but delusions and hallucinations were abundant. On September 4th he tried to write his name, but could not form letters or recollect how to spell it. On 6th September, wrote name distinctly. From this date there was a steady improvement in mental symptoms, and the patient left for Europe. The treatment consisted in occasional large doses of quinine, when temperature rose over 100°; a mixture of iodide of potassium, and a chloral draught with bromide of potassium when required. It may be added that the patient was a temperate man of good physique and free from constitutional disorders.

G.—Dr. E. I. SCOTT'S Report on the Health of Swatow for the Half-year ended
30th September 1878.

I AM indebted to the courtesy of Mr. Harbour Master RAE for the appended table of meteorological observations for the past six months. The thermometric records show a maximum heat of 100° F., and a general very high temperature throughout.

ABSTRACT of Swatow Meteorological Table for Half-year ended 30th September 1878.

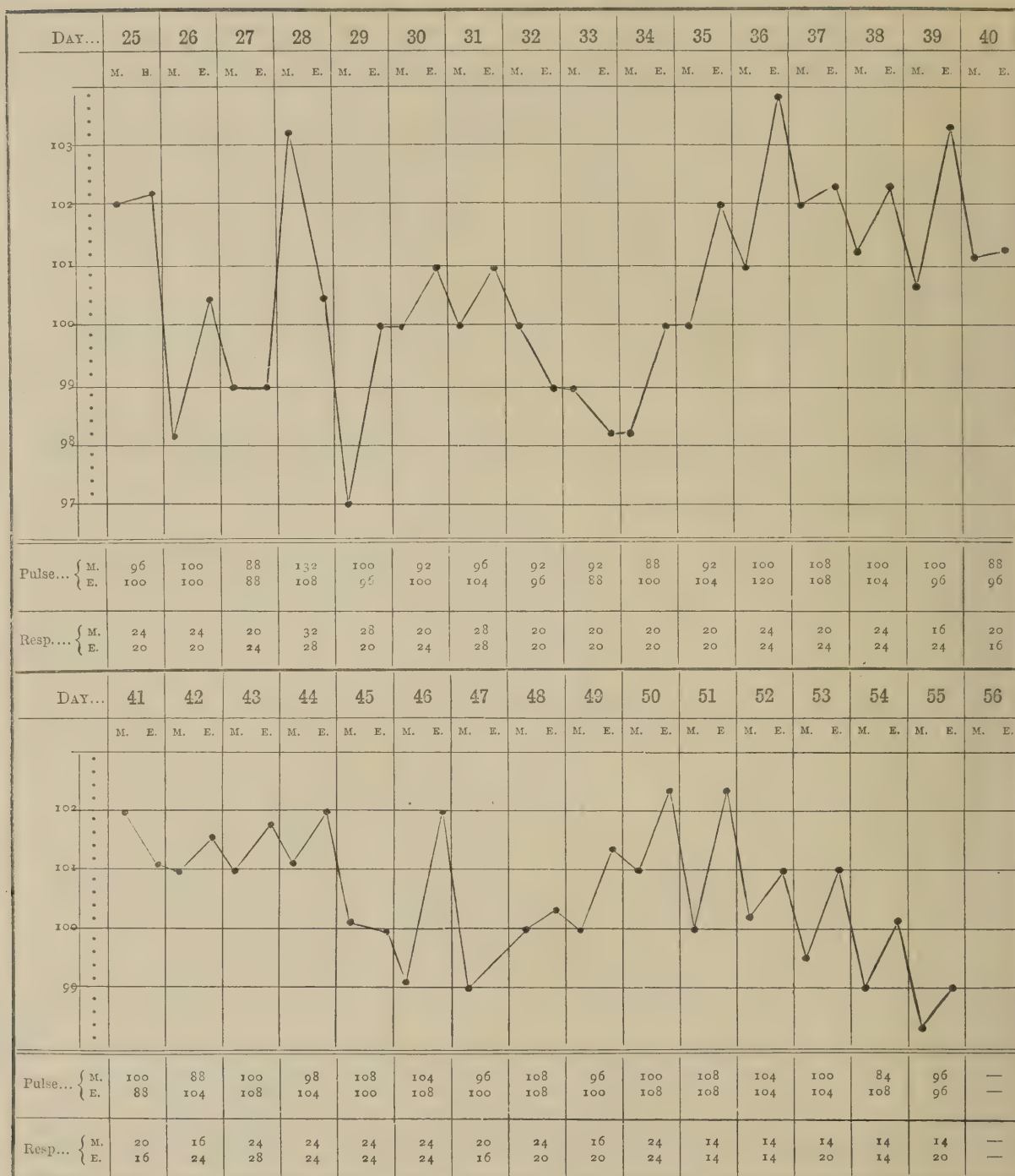
MONTH.	WINDS.					BAROMETER.				THERMOMETER.						RAIN AND FOG.			TIDES, Rise and Fall	
1878.	No. of days N. to E.	No. of days E. to S.	No. of days S. to W.	No. of days W. to N.	No. of days calm.	Highest by day.	Lowest by day.	Highest by Night.	Lowest by Night.	Highest by day.	Lowest by day.	Highest by night.	Lowest by night.	Wet Bulb (Average).	Dry Bulb (Average).	No. of days rain.	Inches.	No. of days fog.	Average rise spring tides.	Average rise neap tides.
	d. h.	d. h.	d. h.	d. h.	d. h.	inches	inches	inches	inches	°	°	°	°	°	°	d. h.		d. h.	ft. in.	ft. in.
April	16 2	7 11	1 18	—	4 17	30·29	29·94	30·30	29·92	87	63	80	58	68	70	1 18	4·125	17 20	6 6	6 4
May	12 11	4 15	8 9	0 20	4 17	30·22	29·77	30·22	29·82	90	67	84	63	72	75	3 18	8·575	2 12	6 6	6 3
June	13 17	0 22	13 18	—	1 15	30·13	29·83	30·10	29·83	90	73	86	70	77	80	3 18	4·625	0 17	6 2	5 8
July	1 19	8 3	9 5	1 11	10 10	30·06	29·78	30·09	29·84	94	81	86	80	81	85	2 5	4·450	0 16	6 0	5 6
August....	0 16	8 19	9 2	2 5	10 6	30·10	29·84	30·11	29·84	99	82	88	79	83	87	2 16	5·855	—	6 0	5 8
September	9 16	9 15	3 12	5 11	2 18	30·14	29·63	30·12	29·68	100	77	88	76	81	86	1 4	6·675	—	6 5	5 11

REMARKS.—Tides very irregular ; not to be depended on, being greatly influenced by the Winds.

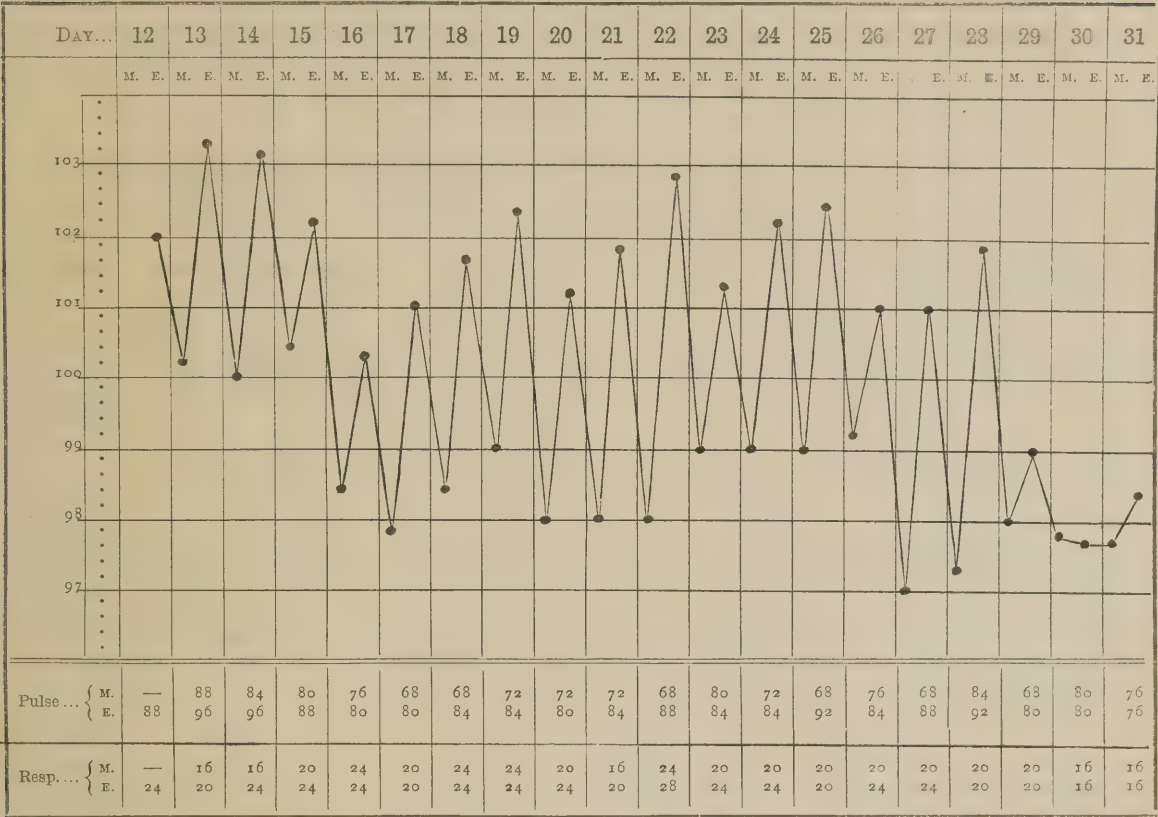
The past six months have I think been hotter than any corresponding period for ten years, but there has been no unusual amount of sickness of any kind, nor have I observed a single case of heat apoplexy, though sun malaise was sufficiently common. The usual amount of diarrhoea and intermittent fever was observed, but we escaped epidemics of all kinds.

The following particulars refer to two cases of typhoid fever which occurred in the early part of the season :—

L. B., aged 18, sailor on board a sailing vessel from Bangkok. On April 4th when first seen he had been for some days complaining, but had laid up only on the day previous. His ship was five weeks out from Bangkok, during which time he had several attacks of diarrhoea and fever, accompanied by profuse sweating. From April 1st he had been very ill, and on the 4th he was extremely feeble, though able to come on deck. Rapid pulse, foul tongue and skin covered with sudamina. I ordered him five grains of quinine every six hours and soup diet. He continued to get worse till the 8th, when he was sent to hospital. I date the commencement of his fever from the 1st of April.

TYPHOID FEVER—L. B., AGED 18—*Continued.*

TYPHOID FEVER—R. M., AGED 28. APRIL 6TH TO MAY 4TH 1878.



I have to report only two births among foreigners during the half-year—two boys. In neither case did any complications arise. Three deaths occurred,—one a lady, aged 30, from acute abscess of the liver followed by pyæmia, and two children who died from acute inflammation of the brain.

H.—Dr. Alexander JAMIESON'S Report on the Health of Shanghai for the
Half-year ended 30th September 1878.

ABSTRACT of Meteorological Observations taken at the Observatory of the Jesuit Mission at
Sicawei, for the six months ended 30th September 1878. Latitude, 31° 12' 30" N.
Longitude E. of Greenwich, 8^h 5^m 44.63^s.

DATE.	Barometer at 0° C.	THERMOMETER.		Elastic Force of Vapour.	Humidi- ty.	Ozone.	Velocity of Wind observed hourly.	Mean Direction of Wind.	Total Evapora- tion during month.	Total Rainfall during month.	REMARKS.
		Diurnal mean Temperature in Shade.	Extreme Temperature in Shade.								
1878.	mm	°C.	°C.	mm of Mercury.	0-100.	0-21.	Kilom. per hour.		mm	mm	
April ...	{ Max... 772.59 { Mean 763.40 { Min... 753.02 { Range 19.57	23.1 — 6.6 16.5	32.3 14.5 5.4 26.9	17.20 9.74 5.30 11.90	100.0 84.7 26.0 74.0	21.0 12.6 4.0 17.0	35.4 12.9 0.4 35.0	N. 74° 3 E.	58.8	239.5	Storms occurred on the 3rd, 8th, 11th, 17th, 18th and 30th. That of the 8th lasted through the whole day.
May.....	{ Max... 768.02 { Mean 758.04 { Min... 750.07 { Range 18.85	23.1 — 13.4 9.7	30.3 19.2 8.2 22.1	20.07 12.80 3.30 17.40	100.0 79.4 22.0 78.0	21.0 12.2 7.0 14.0	34.9 14.3 0.0 34.9	S. 43° 4 E.	91.1	94.2	Storms on the 10th, 11th, 12th and 23rd.
June ...	{ Max... 763.14 { Mean 755.63 { Min... 745.51 { Range 17.63	26.7 — 18.8 7.9	34.2 23.8 14.0 20.2	24.40 17.34 10.00 14.40	100.0 84.1 29.0 71.0	18.0 10.3 2.0 16.0	38.4 14.0 0.0 38.4	S. 49° 8 E.	89.6	71.6	Storms on the 20th and 22nd. Cicadas first heard on the 19th.
July.....	{ Max... 759.32 { Mean 754.70 { Min... 743.39 { Range 15.93	30.5 — 23.7 6.8	36.5 28.0 20.1 16.4	30.20 23.57 16.50 13.70	100.0 88.1 61.0 39.0	15.0 8.1 3.0 12.0	35.0 10.7 0.0 35.0	S. 7° 1 E.	67.0	159.8	Storms on the 3rd, 5th, 10th, 11th, 12th, 14th, 16th and 21st. Lightning was observed nearly every evening. On the 31st a typhoon occurred at 5.30 P.M. at sea in the latitude of Shanghai.
Aug. ...	{ Max... 761.69 { Mean 756.48 { Min... 748.50 { Range 13.19	30.4 — 20.7 9.7	35.8 26.8 16.7 19.1	30.40 22.56 14.80 15.60	100.0 87.5 56.0 44.0	15.0 7.4 0.0 15.0	30.3 9.6 0.0 30.3	S. 70° 8 E.	63.8	84.0	Storms on the 3rd, 4th, 7th, 10th and 23rd.
Sept. ...	{ Max... 764.09 { Mean 757.87 { Min... 743.94 { Range 20.15	26.1 — 19.5 6.6	32.4 23.8 14.3 18.1	23.40 18.20 11.90 11.50	100.0 86.4 51.0 49.0	— — — —	49.4 11.3 0.0 49.4	N. 21° 8 E.	67.8	128.5	Storm on the 26th; typhoon on the 19th.

N.B.—It will be observed that instead of the temperature in the shade observed at intervals of three hours, I have, at Father DECHEVRENS' suggestion, given the highest and lowest of the mean temperatures observed daily. For the purpose of these Reports this change will be found advantageous. The maxima and minima in each column are those noted at the actual hour of observation.

For the above abstract of observations I am indebted to the Rev. Father DECHEVRENS, S.J., Superintendent of the Observatory at Sicawei. The instruments employed, and the conditions under which the observations are taken were briefly described in a previous report.*

* *Customs Medical Reports*, x. 53.

Those who are unfamiliar with the scales adopted will find the following rules convenient for reduction. They are sufficiently correct for all practical purposes:—

RULES.

To reduce millimètres to inches, divide by 25.

To reduce kilomètres to miles multiply by 8 and divide by 5.

To reduce degrees C. to degrees F., multiply by 9, divide by 5 and add 32.

The summer was unusually unhealthy, as will appear from the appended burial returns. Its stress, however, fell not so much upon residents as upon sailors and others merely visiting the port. The temperature was never very high, nor were the nights remarkably hot, yet old residents were unanimous in condemning the past season as one of the most trying among their experience.

The following classified list of burials is condensed from the certificates and the sexton's books:—

BURIAL RETURN OF FOREIGNERS FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1878.

CAUSE OF DEATH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
"Fever"	I *	...	...	...	I
"Continued Fever".....	f I ††	...	I
Enteric Fever.....	2 *	...	2
Tuberculosis.....	I *	...	...	I	f I ¶	I *	4
Cholera.....	I 2 *	2f I* f I §§ 5* I* |||	13
Marasmus	I* ††	I	2
Paralysis.....	...	I *	...	...	...	...	I
Softening of the Brain.....	I	...	...	I
Epilepsy.....	I	I
Meningitis.....	I *	...	...	...	I
Heat Apoplexy.....	...	I	...	I I *	2 I *	...	6
Chronic Alcoholism	I *	...	...	I
Whooping Cough.....	f I ||	...	...	I
Convulsions.....	f I **	...	I
Trismus Neonatorum.....	I §	...	...	...	I
"Disease of the Heart".....	I	...	I
Hypertrophy of the Heart...	I	...	I
" & Mitral Disease	I	...	I
Rupture of Mitral Valve.....	I	...	...	...	I
Bronchitis.....	I †	...	...	...	...	...	I
Pneumonia.....	f I ‡	...	...	...	...	...	I
Hepatitis.....	...	f I	...	...	...	...	I
Abscess of Liver.....	I *	I
Dysentery.....	I	...	f I	2	4
Chronic Diarrhoea.....	I *	...	I
Ulceration of Small Intestine	I *	...	I
"Accident".....	I *	I
Fracture of Skull.....	I *	...	...	...	...	...	I
Drowned.....	...	I *	I	...	I *	2 *	5
Suicide.....	...	I	...	...	...	...	I
Uncertified.....	I	f I ¶	...	I I *	...	...	4
TOTAL.....	5	6	6	8	19	19	63

* Not resident [*i.e.* resident for less than 1 year].

† 20 months.

‡ 10 months.

§ 18 days.

|| 2 years.

¶ 5½ years.

** 8 months.

†† 3 years.

‡‡ 6 months.

§§ 13 months.

||| 17 months.

Abstraction made of non-residents (30) and of children, under 6 years old, of residents (9) there remain 24 deaths among adult foreign residents during the summer half-year. Subtracting again one case of drowning and one of suicide this number is reduced to 22 cases of death from disease. Of these 20 were males and 2 were females, as against 24 males and 3 females during the same period of 1877. They may be thus arranged:—

CAUSES OF DEATH FROM DISEASE AMONG RESIDENT FOREIGN ADULTS,
APRIL-SEPTEMBER 1878.

Tuberculosis	1	Heat Apoplexy	4
Cholera	3	Diseases of Heart	4
Marasmus	1	„ Liver	1 (female).
Softening of Brain	1	Dysentery	4 (1 female).
Epilepsy	1	Uncertified	2

The deaths among children were due to the following causes:—

CAUSES OF DEATH AMONG THE CHILDREN OF FOREIGN RESIDENTS,
APRIL-SEPTEMBER 1878.

Trismus Neonatorum	1 male, aged 18	days.
Bronchitis	1 „ „	20 months.
“Continued Fever”	1 female, „	3 years.
Tuberculosis	1 „ „	5½ „
Cholera	1 „ „	13 months.
Whooping Cough	1 „ „	2 years.
Convulsions	1 „ „	8 months.
Pneumonia	1 „ „	10 „
Uncertified	1 „ „	5½ years.

Out of the 30 non-residents, 2 were male infants, of whom one 2 years old died of cholera; the other, 6 months old, of marasmus. Of the 28 non-resident adults who died, one was a female, aged 28, who succumbed to cholera.

CAUSES OF DEATH AMONG MALE ADULT NON-RESIDENTS (chiefly Sailors).

Fevers	3	Diseases of Nervous System	5	Accidents	6
Tuberculosis	2	Abscess of Liver	1	Uncertified	1
Cholera	7	Diseases of Bowels	2		

The only noteworthy circumstance in the medical history of the port during the six months was a brief and light visitation of cholera. It will be more convenient to give an account of this in the Report dealing with the autumn months.



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„ **2.**—MEDICAL REPORTS..... First Issue, 1871.
